<u>Amendment to the Claims:</u>

The claims under examination in this application, including their current status and changes made in this paper, are respectfully presented.

1 (original). A method for identifying spare blocks within a non-volatile memory, the method comprising:

subjecting at least one physical block identified as being defective within the non-volatile memory to a test, the test being arranged to determine if a defective physical block is usable;

determining when the physical block identified as being defective passes the test; and

identifying the physical block identified as being defective as a usable physical block when it is determined that the physical block identified as being defective passes the test.

2 (original). The method of claim 1 wherein subjecting the at least one physical block identified as being defective to the test includes at least one of subjecting the at least one physical block identified as being defective to a write process to write bits into the physical block identified as being defective, a read process to read the bits from the physical block identified as being defective, and an erase process to erase the bits from the physical block identified as being defective.

3 (original). The method of claim 1 wherein identifying the physical block as a usable physical block includes:

identifying the physical block identified as being defective as a first spare block; and

adding the first spare block to a pool of spare blocks associated with the non-volatile memory,

wherein the first spare block is arranged to be obtained from the pool of spare blocks for use in storing bits.

4 (original). The method of claim 1 further including:

determining when at least one additional spare block is needed within the non-volatile memory; and

identifying the physical block identified as being defective when it is determined that the at least one additional spare block is needed.

5 (original). The method of claim 4 wherein identifying the physical block identified as being defective includes:

scanning a data structure associated with the non-volatile memory,

wherein the data structure is arranged to include bits arranged to indicate that the physical block identified as being defective is defective.

6 (original). The method of claim 5 wherein the data structure is further arranged to include one of a first set of bits to identify when the physical block identified as being defective has a factory defect and a second set of bits to identify when the physical block identified as being defective has a growing defect.

7 (original). The method of claim 4 wherein the data structure is an erase count block.

8 (original). The method of claim 1 wherein the physical block identified as being defective includes a growing defect.

9 (original). The method of claim 1 wherein the non-volatile memory is a flash memory.

10 (original). The method of claim 9 wherein the flash memory is one of a NAND flash memory and an MLC NAND flash memory.

11 (currently amended). A method of managing unusable physical storage elements within a non-volatile memory, the method comprising:

determining ~~when~~ whether a first physical storage element is identified as being defective;

~~substantially~~ removing the first physical storage element from a pool of usable physical storage elements ~~when it is determined~~ <u>responsive to determining</u> that the first physical storage element is defective; and

storing a first signature into a data structure in the non-volatile memory, the first signature being arranged to identify the first physical storage element as being defective.

12 (currently amended). The method of claim 11 wherein determining ~~when~~ <u>whether</u> the first physical storage element is defective includes at least one of determining ~~when~~ <u>whether</u> the first physical storage element may not be successfully read from, determining ~~when~~ <u>whether</u> the first physical storage element may not be successfully written to, and determining ~~when~~ <u>whether</u> the first physical storage element may not be successfully erased.

13 (currently amended). The method of claim 12 wherein ~~when it is determined~~ <u>responsive to determining</u> that the first physical storage element is defective, the first physical storage element includes a growing defect, and the first signature is arranged to identify the first physical storage element as having the growing defect.

14 (currently amended). The method of claim 11 wherein determining ~~when~~ <u>whether</u> the first physical storage element is defective includes reading bits included in the first physical storage element to determine if the bits are arranged to indicate that the first physical storage is defective.

15 (currently amended). The method of claim 14 wherein ~~when it is determined~~ <u>responsive to determining</u> that the first physical storage element is defective, the first physical storage element includes a factory defect, and the first signature is arranged to identify the first physical storage element as having the factory defect.

16 (original). The method of claim 11 wherein the data structure is further arranged to contain bits associated with the usable storage elements.

17 (original). The method of claim 11 further including: scanning substantially all physical elements within the non-volatile memory to identify the first physical element.

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18 (original).   The method of claim 11 wherein the first physical element is a first physical block, and the usable physical elements are usable physical blocks.

19 (original).   The method of claim 11 wherein the non-volatile memory is a flash memory.

20 (original).   The method of claim 19 wherein the flash memory is one of a NAND flash memory and an MLC NAND flash memory.

21 (original).   A non-volatile memory system comprising:
　　　　code devices that cause at least one physical block identified as being defective associated with a non-volatile memory to undergo a test, the test being arranged to determine if a physical block identified as being defective is usable;
　　　　code devices that cause a determination to be made regarding when the physical block identified as being defective passes the test;
　　　　code devices that cause the physical block identified as being defective to be identified as a usable physical block when it is determined that the physical block identified as being defective passes the test; and
　　　　a memory area that stores the code devices.

22 (original).   The non-volatile memory system of claim 21 wherein the code devices that cause the physical block identified as being defective to undergo the test include at least one of code devices that cause the physical block identified as being defective to undergo a write process to write bits into the physical block identified as being defective, code devices that cause the physical block identified as being defective to undergo a read process to read the bits from the physical block identified as being defective, and code devices that cause the defective physical block identified as being defective to undergo an erase process to erase the bits.

23 (original). The non-volatile memory system of claim 21 wherein the code devices that cause the physical block identified as being defective to be identified as a usable physical block includes:

code devices that cause the physical block identified as being defective to be identified as a first spare block; and

code devices that cause the first spare block to be added to a pool of spare blocks associated with the non-volatile memory,

wherein the first spare block is arranged to be obtained from the pool of spare blocks for use in storing bits.

24 (original). The non-volatile memory system of claim 21 further including:

code devices that cause a determination of when at least one additional spare block is needed within the non-volatile memory; and

code devices that cause the physical block identified as being defective to be identified when it is determined that the at least one additional spare block is needed,

wherein the code devices that cause the physical block identified as being defective to be identified include coded devices that cause a data structure associated with the non-volatile memory to be scanned,

wherein the data structure is arranged to include bits arranged to indicate that the physical block identified as being defective is defective.

25 (original). The non-volatile memory system of claim 24 wherein the data structure is further arranged to include one of a first set of bits to identify when the physical block identified as being defective has a factory defect and a second set of bits to identify when the physical block identified as being defective has a growing defect.

26 (original). The non-volatile memory system of claim 21 wherein the physical block identified as being defective includes a growing defect.

27 (original). The non-volatile memory system of claim 21 wherein the code devices are one of software code devices and firmware code devices.

28 (currently amended). A non-volatile memory system comprising:

code devices that cause a determination to be made regarding ~~when~~ whether a first physical storage element of a non-volatile memory is defective;

code devices that cause the first physical storage element to be ~~substantially~~ removed from a pool of usable physical storage elements ~~when it is determined~~ responsive to determining that the first physical storage element is defective;

code devices that cause a first signature to be stored into a data structure in the non-volatile memory, the first signature being arranged to identify the first physical storage element as being defective; and

a memory area that stores the code devices.

29 (currently amended). The non-volatile memory system of claim 28 wherein the code devices that cause the determination of when the first physical storage element is defective include at least one of code devices that cause a determination of ~~when~~ whether the first physical storage element may not be successfully read from, code devices that cause a determination of ~~when~~ whether the first physical storage element may not be successfully written to, and code devices that cause a determination of ~~when~~ whether the first physical storage element may not be successfully erased.

30 (currently amended). The non-volatile memory system of claim 29 wherein ~~when it is determined~~ responsive to determining that the first physical storage element is defective, the first physical storage element includes a growing defect, and the first signature is arranged to identify the first physical storage element as having the growing defect.

31 (currently amended). The non-volatile memory system of claim 28 wherein the code devices that cause the determination of ~~when~~ whether the first physical storage element is defective include code devices that cause bits included in the first physical storage element to be read to determine if the bits are arranged to indicate that the first physical storage is defective.

32 (currently amended). The non-volatile memory system of claim 31 wherein ~~when it is determined~~ responsive to determining that the first physical storage element is defective, the first

physical storage element includes a factory defect, and the first signature is arranged to identify the first physical storage element as having the factory defect.

33 (original). The non-volatile memory system of claim 28 further including:

code devices that cause substantially all physical elements within the non-volatile memory to be scanned to identify the first physical element.

34 (original). The non-volatile memory system of claim 28 wherein the first physical element is a first physical block, and the usable physical elements are usable physical blocks.

35 (original). The non-volatile memory system of claim 28 wherein the code devices are one of software code devices and firmware code devices.

36 (original). A non-volatile memory system comprising:

a non-volatile memory;

means for subjecting at least one defective physical block associated with the non-volatile memory to a test, the test being arranged to determine if a defective physical block is usable;

means for determining when the defective physical block passes the test; and

means for identifying the defective physical block as a usable physical block when it is determined that the defective physical block passes the test.

37 (original). The non-volatile memory system of claim 1 wherein the defective physical block includes a growing defect.

38 (original). The non-volatile memory system of claim 36 wherein the non-volatile memory is a flash memory.

39 (original). The non-volatile memory system of claim 38 wherein the flash memory is one of a NAND flash memory and an MLC NAND flash memory.

40 (currently amended). A non-volatile memory system comprising:

a non-volatile memory;

means for determining ~~when~~ whether a first physical storage element is defective;

means for ~~substantially~~ removing the first physical storage element from a pool of usable physical storage elements ~~when it is determined~~ responsive to determining that the first physical storage element is defective; and

means for storing a first signature into a data structure in the non-volatile memory, the first signature being arranged to identify the first physical storage element as being defective.

41 (currently amended). The non-volatile memory system of claim 40 wherein the means for determining ~~when~~ whether the first physical storage element is defective include at least one of means for determining ~~when~~ whether the first physical storage element may not be successfully read from, means for determining ~~when~~ whether the first physical storage element may not be successfully written to, and means for determining ~~when~~ whether the first physical storage element may not be successfully erased.

42 (currently amended). The non-volatile memory system of claim 41 wherein ~~when it is determined~~ responsive to determining that the first physical storage element is defective, the first physical storage element includes a growing defect, and the first signature is arranged to identify the first physical storage element as having the growing defect.

43 (currently amended). The non-volatile memory system of claim 40 wherein the means for determining ~~when~~ whether the first physical storage element is defective include means for reading bits included in the first physical storage element to determine if the bits are arranged to indicate that the first physical storage is defective.

44 (currently amended). The non-volatile memory system of claim 43 wherein ~~when it is determined~~ responsive to determining that the first physical storage element is defective, the first physical storage element includes a factory defect, and the first signature is arranged to identify the first physical storage element as having the factory defect.

45 (original). The non-volatile memory system of claim 40 wherein the first physical element is a first physical block, and the usable physical elements are usable physical blocks.

46 (original). The non-volatile memory system of claim 40 wherein the non-volatile memory is a flash memory.

47 (original). The non-volatile memory system of claim 46 wherein the flash memory is one of a NAND flash memory and an MLC NAND flash memory.

48 (currently amended). A method for managing blocks within a non-volatile memory system, the method comprising:

determining ~~when~~ whether a first physical block within a non-volatile memory of the non-volatile memory system has a factory defect;

storing a first signature in a data structure associated with the non-volatile memory which identifies the first physical block as having the factory defect ~~when it is determined~~ responsive to determining that the first physical block has the factory defect;

~~substantially~~ preventing the first physical block from being used to store information ~~when it is determined~~ responsive to determining that the first physical block has the factory defect;

determining ~~when~~ whether a second physical block within the non-volatile memory has a growing defect;

storing a second signature in the data structure which identifies the second physical block as having the growing defect ~~when it is determined~~ responsive to determining that the second physical block has the growing defect; and

~~substantially~~ preventing the second physical block from being used to store information ~~when it is determined~~ responsive to determining that the first physical block has the growing defect.

49 (currently amended). The method of claim 48 further including:

determining ~~when~~ whether a spare block is needed within the non-volatile memory;

testing the second physical block to determine if the second physical block is usable; and

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designating the second physical block as the spare block ~~when it is determined~~ <u>responsive to determining</u> that the second physical block is usable.

50 (original). The method of claim 49 further including:

scanning the data structure to identify the second physical block by locating the second signature.

51 (original). The method of claim 48 wherein the non-volatile memory is one of a NAND flash memory and an MLC NAND flash memory.